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Primary transitional cell carcinoma of the anterior urethra: a rare presentation

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Abstract

A 72 year old Caucasian male presented with symptoms and signs of littritis. There was no response to a two week course of doxycycline. Cysto-urethroscopy revealed a transitional cell carcinoma of the anterior urethra. As there was no response to deep x-ray therapy, radical amputation of the penis was carried out. The literature pertaining to this rare entity is reviewed.

Introduction

Transitional cell carcinoma of the anterior urethra is extremely rare. Only five cases have been reported in the literature up to the end of December 1988.[1] Urothelial metaplasia or ectopic urothelium may explain the occurrence of transitional cell carcinoma in an area normally lined by squamous epithelium.[2,3] However, the isolation of human papilloma virus type 6 RNA in three cases of Grade I papillary transitional cell carcinoma of the anterior urethra in association with condyloma acuminata raises the possibility of an active role for the virus in the pathogenesis of the lesion.[4] Here we report a case of transitional cell carcinoma of the anterior urethra presenting with features consistent with periurethral inflammation and review the related literature.

Case report

A 72 year old Caucasian male was seen at the genitourinary clinic with a six months history of swelling and pain in the shaft of the penis and slight bleeding at the start of micturition, associated with pus and debris in urine. Two years previously, he had had similar symptoms which settled with antibiotics, following a negative cystoscopy. Examination revealed a tender fusiform swelling of the distal third of the penis associated with a purulent urethral discharge. There were no other abnormalities and in particular there was no evidence of inguinal lymphadenopathy. All screening tests were negative. A provisional diagnosis of littritis was made and he was commenced on a two week course of doxycycline 200 mg stat dose and 100 mg bd.

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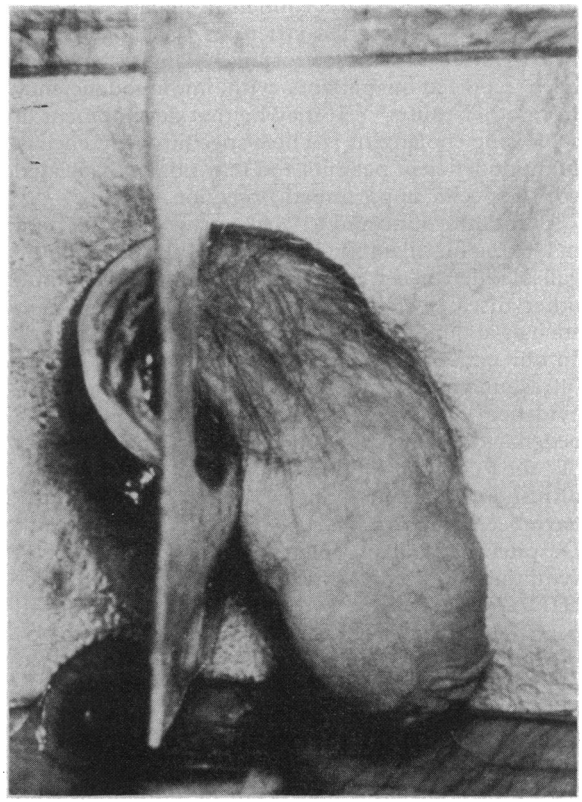

Figure 1 Fusiform swelling of the distal third of the shaft of the penis.

When he was reviewed two weeks later, as there was no change in signs or symptoms, a cysto-urethroscopy was performed. This revealed a solid tumour in the distal urethra. Biopsy confirmed a transitional cell carcinoma. An intravenous urogram and a repeat cystoscopy and a biopsy of a suspected bladder lesion showed no evidence of skip lesions. A chest radiograph was normal.

He was treated with deep x-ray therapy (5200 rads) given in 20 fractions over a 36 day period. However, as there was no response a radical amputation of the penis was carried out. Check cystoscopy carried out six months and seventeen months after surgery, showed no evidence of recurrence. However, he had multiple admissions to hospital in the ensuing two years for problems associated with an adeno-

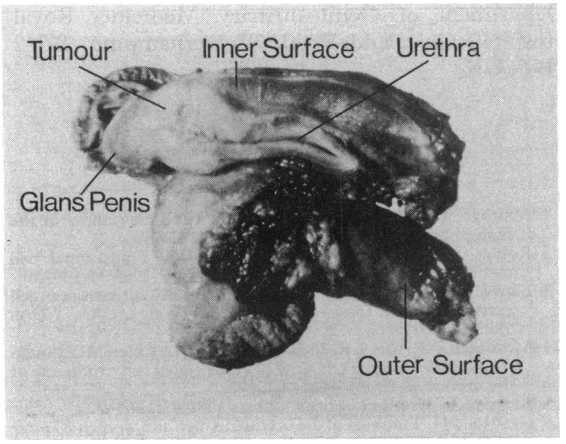

Figure 2 Bisected specimen showing tumour mass within the corpora cavernosa 2·5 cm from the penile tip.

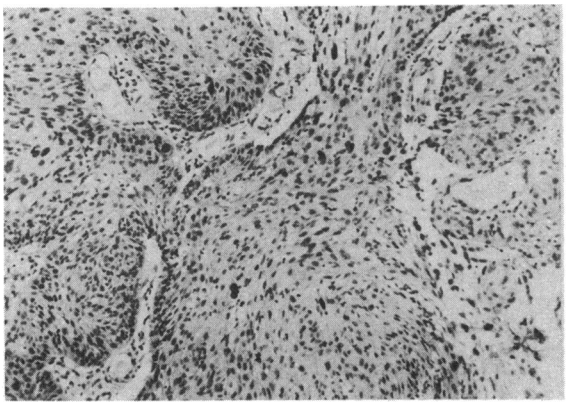

Figure 3 Squamoid differentiation within papillary transitional cell carcinoma (H & E ×32).

carcinoma of the caecum and eventually died of multiple carcinomatosis twenty months after initial presentation.

Macroscopic examination of the excised specimen showed a hard white mass deep within the corpora cavernosa 2·5 cm from the penile tip. The tumour appeared to infiltrate the corpus spongiosum. Microscopic examination showed a poorly differentiated transitional cell carcinoma with some squamoid features.

Discussion

Carcinoma of the male urethra accounts for less than 1% of all urological male malignancies. The first case of primary carcinoma of the male urethra was reported by Thiaudierre in 1834. In spite of the greater complexity and length of the male urethra and the higher incidence of other urinary tract malignancies in males, the incidence of carcinoma of the urethra is much lower than in the short female urethra.[5,6] The commonest histological type is squamous cell carcinoma (78%) occurring in the anterior urethra which is lined by pseudostratified and stratified columnar epithelium and most distally in the meatus by stratified squamous epithelium. One in five of anterior urethral carcinomas occur in the fossa navicularis.[7]

Transitional cell carcinoma usually presents in the posterior urethra, mainly in the prostatic portion where the epithelium is transitional and in continuity with the bladder epithelium. Transitional cell carcinoma in the anterior urethra is extremely rare. Only five cases have been reported in the literature up to December 1988.[1] The occurrence of transitional cell carcinoma in an area normally lined by squamous epithelium could be explained by either urothelial metaplasia or the presence of ectopic urothelium.[2,3] Recent studies have shown the presence of human papilloma virus type 6 RNA in some specimens of Grade I papillary transitional cell carcinoma of the anterior urethra associated with condyloma acuminata. This raises the possibility of an active role for the virus in the pathogenesis of the lesion.[4]

Clinical presentation of carcinoma of the anterior urethra is usually that of a urethral stricture. Following ulceration of the growth, a sero-sanguinous urethral discharge may develop. Occasionally, the patient may present with a periurethral inflammation or induration as in this case. This form of presentation was common in earlier years and was usually associated with a urethral stricture and instrumentation. In the presence of periurethral induration or inflammation, it is important to investigate the patient endoscopically to avoid problems associated with a fungating tumour.[7]

Careful palpation of the inguinal region is important to identify regional lymphadenopathy. Clinically enlarged lymph nodes have been reported in 50% of patients with carcinoma of the anterior urethra.[8] In two recent case reports of transitional cell carcinoma metastases were seen both in the inguinal and pelvic nodes. This required extensive surgery followed by radiotherapy in one[2] and radiotherapy alone in the other.[3] An urethrogram, intravenous urogram and cysto-urethroscopy to exclude skip lesions are all important investigations in the work up of the patient. Transurethral biopsy is the usual method of confirming the diagnosis. In the absence of clinically detectable lymph nodes, lymphangiography or computed tomography may have a potential value in detecting pelvic lymph node metastasis.[8] A chest radiograph and an isotope scan are usually negative as distant metastasis occurs only in 10% of patients.[8] Full haematological screening to exclude anaemia, hypoalbuminaemia, uraemia, electrolyte imbalance and hypercalcaemia completes the

full assessment of the patient.

Tumours of the anterior urethra distal to the bulb are best managed by partial or total penectomy with perineal urethrostomy. Local recurrences are rare after treatment. Failure of treatment is a result of an unsuspected inadequate surgical margin or undetected regional lymph node involvement at the time of primary surgery.[8] The reported five year survival rate is between 50%–66%.[8] Recurrences after other modes of therapy are common.

It is important to be aware that symptoms of some benign diseases such as urethral stricture, urethritis, prostatitis and prostatic enlargement are also those of urethral malignancy. The development of a "stricture" in a middle aged or elderly man with no previous history of urethral disease and especially obstruction which bleeds easily should arouse the suspicion of urethral malignancy.[9]

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